

ENVIRONMENTAL MONITORING REPORT

May, 2022

PROJECT: RAMANADURGA IRON ORE MINE

**ML NO. 2141
Dharmapura Village
Sandur Taluk, Ballari District,
Karnataka**

Lessee

M/S. Sri. KUMARASWAMY MINERAL EXPORTS PVT. LTD.,

**D. No. 462, SMIORE Colony,
Near Fire Station, Kudligi Road
SANDUR - 583119
BELLARY, KARNATAKA**

CONSULTANTS

MINERAL ENGINEERING SERVICES

Mining & Environmental Engineers

25/XXV, Club Road, BALLARI - 583 103.

**Tel/Fax:08392-267421
E-mail:mes_msraju@yahoo.co.uk**

LIST OF TABLES

SL. NO.	PARTICULARS	TABLE NO.
1	Test Report of Ambient Air Quality	1 to 5
2	Test Report of Fugitive Emission	6
3	Statistical Air Quality	7
4	Water Analysis Report As per IS 2296	8



MINERAL ENGINEERING SERVICES

Recognised by GOI, MOEF&CC Under E(P)A 1986 Vide Gazette Notification
No. S.O. 857(E) dated 26.02.2018. Recognition Valid Upto 25.02.2023



Table No. 1

TEST REPORT OF AMBIENT AIR QUALITY

MES/AQ/TR/06/00

Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Station at & Code : A - I, Dharmapura
 Duration : 24 Hrs
 Date of Report : 06.06.2022
 Reference IS 5182 Report No : MES/SS/ARN/307

Date of Sampling	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	Ammonia (NH ₃), µg/m ³	Benzene (C ₆ H ₆), µg/m ³
06.05.2022	10	13	45	31	<20	<1
07.05.2022	8	12	44	28	<20	<1
11.05.2022	10	13	54	29	<20	<1
12.05.2022	12	14	50	26	<20	<1
20.05.2022	7	12	48	27	<20	<1
21.05.2022	10	14	43	26	<20	<1
23.05.2022	9	12	48	29	<20	<1
24.05.2022	13	15	50	30	<20	<1
Limits for Industrial , Residential, Rural and other Areas	80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	400 24 Hrs	5 Annual

Date of Sampling	Lead (Pb), µg/m ³	Nickel (Ni), ng/m ³	Arsenic (As), ng/m ³	Benzo(a) Pyrene (BaP), ng/m ³	Carbon Monoxide* (CO), mg/m ³	Ozone* (O ₃), µg/m ³
06.05.2022	0.13	<0.5	<0.5	<0.5	0.35	20
07.05.2022	0.11	<0.5	<0.5	<0.5	0.31	24
11.05.2022	0.09	<0.5	<0.5	<0.5	0.30	27
12.05.2022	0.14	<0.5	<0.5	<0.5	0.34	28
20.05.2022	0.13	<0.5	<0.5	<0.5	0.36	26
21.05.2022	0.09	<0.5	<0.5	<0.5	0.32	26
23.05.2022	0.05	<0.5	<0.5	<0.5	0.35	20
24.05.2022	0.13	<0.5	<0.5	<0.5	0.33	27
Limits for Industrial , Residential, Rural and other Areas	1.0 24 Hrs	20 Annual	6 Annual	1 Annual	4 1 Hr	180 1 Hr

Note : * Parameters monitored for period of 1 hr

(M.R. DURGA PRASAD)
 GOVT. ANALYST

(M.S. RAJU)
 HEAD OF LABORATORY



MINERAL ENGINEERING SERVICES

Recognised by GOI, MOEF&CC Under E(P)A 1986 Vide Gazette Notification
No. S.O. 857(E) dated 26.02.2018. Recognition Valid Upto 25.02.2023



ORG000756



ISO 9001:2015
ISO 45001:2018

Table No. 2

TEST REPORT OF AMBIENT AIR QUALITY

MES/AQ/TR/06/00

Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
Station at & Code : A - II, Yeshwanthanagar
Duration : 24 Hrs
Date of Report : 06.06.2022
Reference IS 5182 Report No : MES/SS/ARN/308

Date of Sampling	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	Ammonia (NH ₃), µg/m ³	Benzene (C ₆ H ₆), µg/m ³
06.05.2022	10	12	45	27	<20	<1
07.05.2022	8	11	50	30	<20	<1
11.05.2022	6	9	48	28	<20	<1
12.05.2022	5	10	46	28	<20	<1
20.05.2022	9	12	41	29	<20	<1
21.05.2022	7	9	45	27	<20	<1
23.05.2022	5	9	40	24	<20	<1
24.05.2022	10	12	48	25	<20	<1
Limits for Industrial , Residential, Rural and other Areas	80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	400 24 Hrs	5 Annual

Date of Sampling	Lead (Pb), µg/m ³	Nickel (Ni), ng/m ³	Arsenic (As), ng/m ³	Benzo(a) Pyrene (BaP), ng/m ³	Carbon Monoxide* (CO), mg/m ³	Ozone* (O ₃), µg/m ³
06.05.2022	0.14	<0.5	<0.5	<0.5	0.31	20
07.05.2022	0.12	<0.5	<0.5	<0.5	0.34	26
11.05.2022	0.10	<0.5	<0.5	<0.5	0.30	21
12.05.2022	0.12	<0.5	<0.5	<0.5	0.32	23
20.05.2022	0.15	<0.5	<0.5	<0.5	0.36	25
21.05.2022	0.13	<0.5	<0.5	<0.5	0.35	27
23.05.2022	0.12	<0.5	<0.5	<0.5	0.29	28
24.05.2022	0.09	<0.5	<0.5	<0.5	0.26	21
Limits for Industrial , Residential, Rural and other Areas	1.0 24 Hrs	20 Annual	6 Annual	1 Annual	4 1 Hr	180 1 Hr

Note : * Parameters monitored for period of 1 hr

(M.R. DURGA PRASAD)
GOVT. ANALYST

(M.S. RAJU)
HEAD OF LABORATORY

25/XXV, Club Road, Ballari-583 103, Karnataka. Landline No. :08392-267421
E-mail : mes_msraju@yahoo.co.uk / mesbly25@gmail.com

Website : www.envtest.in



MINERAL ENGINEERING SERVICES

Recognised by GOI, MOEF&CC Under E(P)A 1986 Vide Gazette Notification
No. S.O. 857(E) dated 26.02.2018. Recognition Valid Upto 25.02.2023



Table No. 3

TEST REPORT OF AMBIENT AIR QUALITY

MES/AQ/TR/06/00

Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Station at & Code : A - III, Sushila Nagar village
 Duration : 24 Hrs
 Date of Report : 06.06.2022
 Reference IS 5182 Report No : MES/SS/ARN/296

Date of Sampling	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	Ammonia (NH ₃), µg/m ³	Benzene (C ₆ H ₆), µg/m ³
06.05.2022	14	16	57	30	<20	<1
07.05.2022	11	14	54	28	<20	<1
13.05.2022	15	17	48	34	<20	<1
14.05.2022	12	16	53	27	<20	<1
16.05.2022	14	18	46	25	<20	<1
17.05.2022	10	13	40	26	<20	<1
27.05.2022	9	14	50	29	<20	<1
28.05.2022	10	14	46	26	<20	<1
Limits for Industrial , Residential, Rural and other Areas	80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	400 24 Hrs	5 Annual

Date of Sampling	Lead (Pb), µg/m ³	Nickel (Ni), ng/m ³	Arsenic (As), ng/m ³	Benzo(a) Pyrene (BaP), ng/m ³	Carbon Monoxide* (CO), mg/m ³	Ozone* (O ₃), µg/m ³
06.05.2022	0.11	<0.5	<0.5	<0.5	0.28	23
07.05.2022	0.09	<0.5	<0.5	<0.5	0.25	25
13.05.2022	0.15	<0.5	<0.5	<0.5	0.29	27
14.05.2022	0.13	<0.5	<0.5	<0.5	0.27	26
16.05.2022	0.09	<0.5	<0.5	<0.5	0.05	20
17.05.2022	0.12	<0.5	<0.5	<0.5	0.15	21
27.05.2022	0.05	<0.5	<0.5	<0.5	0.22	26
28.05.2022	0.09	<0.5	<0.5	<0.5	0.30	25
Limits for Industrial , Residential, Rural and other Areas	1.0 24 Hrs	20 Annual	6 Annual	1 Annual	4 1 Hr	180 1 Hr

Note : * Parameters monitored for period of 1 hr

(M.R. DURGA PRASAD)
 GOVT. ANALYST

(M.S. RAJU)
 HEAD OF LABORATORY



MINERAL ENGINEERING SERVICES

Recognised by GOI, MOEF&CC Under E(P)A 1986 Vide Gazette Notification
No. S.O. 857(E) dated 26.02.2018. Recognition Valid Upto 25.02.2023



Table No. 4

TEST REPORT OF AMBIENT AIR QUALITY

MES/AQ/TR/06/00

Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Station at & Code : A - IV Sandur Town
 Duration : 24 Hrs
 Date of Report : 06.06.2022
 Reference IS 5182 Report No : MES/SS/ARN/333

Date of Sampling	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	Ammonia (NH ₃), µg/m ³	Benzene (C ₆ H ₆), µg/m ³
06.05.2022	12	15	44	20	<20	<1
07.05.2022	10	14	41	26	<20	<1
09.05.2022	15	17	45	28	<20	<1
10.05.2022	10	12	48	29	<20	<1
20.05.2022	8	13	45	25	<20	<1
21.05.2022	10	14	43	28	<20	<1
23.05.2022	9	13	49	24	<20	<1
24.05.2022	13	14	40	24	<20	<1
Limits for Industrial , Residential, Rural and other Areas	80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	400 24 Hrs	5 Annual

Date of Sampling	Lead (Pb), µg/m ³	Nickel (Ni), ng/m ³	Arsenic (As), ng/m ³	Benzo(a) Pyrene (BaP), ng/m ³	Carbon Monoxide* (CO), mg/m ³	Ozone* (O ₃), µg/m ³
06.05.2022	0.13	<0.5	<0.5	<0.5	0.34	24
07.05.2022	0.11	<0.5	<0.5	<0.5	0.34	26
09.05.2022	0.09	<0.5	<0.5	<0.5	0.30	28
10.05.2022	0.14	<0.5	<0.5	<0.5	0.32	29
20.05.2022	0.11	<0.5	<0.5	<0.5	0.36	27
21.05.2022	0.09	<0.5	<0.5	<0.5	0.35	25
23.05.2022	0.09	<0.5	<0.5	<0.5	0.29	26
24.05.2022	0.13	<0.5	<0.5	<0.5	0.26	24
Limits for Industrial , Residential, Rural and other Areas	1.0 24 Hrs	20 Annual	6 Annual	1 Annual	4 1 Hr	180 1 Hr

Note : * Parameters monitored for period of 1 hr


 (M.R. DURGA PRASAD)
 GOVT. ANALYST


 (M.S. RAJU)
 HEAD OF LABORATORY



MINERAL ENGINEERING SERVICES

Recognised by GOI, MOEF&CC Under E(P)A 1986 Vide Gazette Notification
No. S.O. 857(E) dated 26.02.2018. Recognition Valid Upto 25.02.2023



Table No. 5

TEST REPORT OF AMBIENT AIR QUALITY

MES/AQ/TR/06/00

Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
 Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
 Station at & Code : A - V Core zone Within ML Area
 Duration : 24 Hrs
 Date of Report : 06.06.2022
 Reference IS 5182 Report No : MES/SS/ARN/332

Date of Sampling	Sulphur Dioxide (SO ₂), µg/m ³	Nitrogen Dioxide (NO ₂), µg/m ³	PM ₁₀ , (µg/m ³)	PM _{2.5} , (µg/m ³)	Ammonia (NH ₃), µg/m ³	Benzene (C ₆ H ₆), µg/m ³
06.05.2022	13	15	52	28	<20	<1
07.05.2022	10	12	56	23	<20	<1
09.05.2022	14	16	53	29	<20	<1
10.05.2022	10	13	51	25	<20	<1
20.05.2022	8	11	54	26	<20	<1
21.05.2022	10	12	58	27	<20	<1
23.05.2022	10	14	60	23	<20	<1
24.05.2022	13	15	55	26	<20	<1
Limits for Industrial , Residential, Rural and other Areas	80 24 Hrs	80 24 Hrs	100 24 Hrs	60 24 Hrs	400 24 Hrs	5 Annual

Date of Sampling	Lead (Pb), µg/m ³	Nickel (Ni), ng/m ³	Arsenic (As), ng/m ³	Benzo(a) Pyrene (BaP), ng/m ³	Carbon Monoxide* (CO), mg/m ³	Ozone* (O ₃), µg/m ³
06.05.2022	0.09	<0.5	<0.5	<0.5	0.28	29
07.05.2022	0.11	<0.5	<0.5	<0.5	0.27	25
09.05.2022	0.13	<0.5	<0.5	<0.5	0.26	26
10.05.2022	0.15	<0.5	<0.5	<0.5	0.30	24
20.05.2022	0.10	<0.5	<0.5	<0.5	0.32	25
21.05.2022	0.11	<0.5	<0.5	<0.5	0.35	28
23.05.2022	0.14	<0.5	<0.5	<0.5	0.31	25
24.05.2022	0.09	<0.5	<0.5	<0.5	0.30	26
Limits for Industrial , Residential, Rural and other Areas	1.0 24 Hrs	20 Annual	6 Annual	1 Annual	4 1 Hr	180 1 Hr

Note : * Parameters monitored for period of 1 hr


 (M.R. DURGA PRASAD)
 GOVT. ANALYST


 (M.S. RAJU)
 HEAD OF LABORATORY



MINERAL ENGINEERING SERVICES

Recognised by GOI, MOEF&CC Under E(P)A 1986 Vide Gazette Notification
No. S.O. 857(E) dated 26.02.2018. Recognition Valid Upto 25.02.2023



Table No. 6

Test Report of Fugitive Emission

MES/AQ/TR/06/00

Name of the Client	: M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
Project	: Ramanadurga Iron Ore Mine (ML No. 2141)
Station at & Code	: A - VI, Loading point
Duration	: 08 Hrs
Date of Report	: 06.06.2022
Report No	: MES/SS/ARN/334
Date of sample	Particulate mater ($\mu\text{g}/\text{m}^3$)
06.05.2022	408
09.05.2022	385

Station at & Code	: A - VII, Crushing & Screening
Duration	: 08 Hrs
Date of Report	: 06.06.2022
Date of sample	Particulate mater ($\mu\text{g}/\text{m}^3$)
07.05.2022	507
10.05.2022	415

Station at & Code	: A - VIII, Dumping point
Duration	: 08 Hrs
Date of Report	: 06.06.2022
Date of sample	Particulate mater ($\mu\text{g}/\text{m}^3$)
06.05.2022	497
09.05.2022	433

Station at & Code	: A - IX, Haulage Road
Duration	: 08 Hrs
Date of Report	: 06.06.2022
Date of sample	Particulate mater ($\mu\text{g}/\text{m}^3$)
07.05.2022	561
10.05.2022	475

Ref	: Environmental (Protection) Rules, 2010 (Sixth Amendment)
	Particulate mater ($\mu\text{g}/\text{m}^3$)
Permissible limits for Fugitive Emissions	1200 $\mu\text{g}/\text{m}^3$


(M.R. DURGA PRASAD)
GOVT. ANALYST


(M.S. RAJU)
HEAD OF LABORATORY



MINERAL ENGINEERING SERVICES

Recognised by GOI, MOEF&CC Under E(P)A 1986 Vide Gazette Notification
No. S.O. 857(E) dated 26.02.2018. Recognition Valid Upto 25.02.2023




Table No. 7

STATISTICAL AIR QUALITY DATA

Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)												
Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd												
Month : May, 2022												
Station Code : A - I, Dharmapura					A - II, Yeshwanthanagar				A - III, Sushila Nagar village			
	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}
Min.	7	12	43	26	5	9	40	24	9	13	40	25
10%	8	12	44	26	5	9	41	25	10	14	44	26
25%	9	12	45	27	6	9	44	26	10	14	46	26
50%	10	13	48	29	8	11	46	28	12	15	49	28
75%	11	14	50	29	9	12	48	29	14	16	53	29
98%	13	15	53	31	10	12	50	30	15	18	57	33
Max.	13	15	54	31	10	12	50	30	15	18	57	34
Avg.	10	13	48	28	8	11	45	27	12	15	49	28
SD	2	1	4	2	2	1	3	2	2	2	5	3
No. of obs	8				8				8			
Station Code : A - IV Sandur Town					A - V Core zone Within ML Area							
	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}				
Min.	8	12	40	20	8	11	51	23				
10%	9	13	41	23	9	12	52	23				
25%	10	13	43	24	10	12	53	25				
50%	10	14	45	26	10	14	55	26				
75%	12	14	46	28	13	15	57	27				
98%	15	17	49	29	14	16	60	29				
Max.	15	17	49	29	14	16	60	29				
Avg.	11	14	44	25	11	14	55	26				
SD	2	2	3	3	2	2	3	2				
No. of obs	8				8							


(M.R. DURGA PRASAD)
GOVT. ANALYST


(M.S. RAJU)
HEAD OF LABORATORY

25/XXV, Club Road, Ballari-583 103, Karnataka. Landline No. :08392-267421

E-mail : mes_msraju@yahoo.co.uk / mesbly25@gmail.com

Website : www.envtest.in



MINERAL ENGINEERING SERVICES

Recognised by GOI, MOEF&CC Under E(P)A 1986 Vide Gazette Notification
No. S.O. 857(E) dated 26.02.2018. Recognition Valid Upto 25.02.2023



Table No. 8

WATER ANALYSIS REPORT

MES/W/FTR/12/00

Name of the Project : Ramanadurga Iron Ore Mine (ML No. 2141)
Name of the Client : M/s. Sri. Kumaraswamy Mineral Exports Pvt. Ltd
Month : May, 2022
Date of sampling : 06.05.2022
Date of Report : 06.06.2022

Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Parameters	Method of Testing	Limits For Stream Water Standards	Result	
				SW1	SW2
i	pH	IS:3025(Part-11)	6.5 to 8.5	No Flow	No Flow
ii	Dissolved Oxygen (as O ₂), mg/l, Min	IS:3025(Part-38)	4		
iii	Biochemical Oxygen Demand (as O ₂), mg/l, Max	IS:3025(Part-44)	3		
iv	Total Coliform (mpn/100ml), Max	IS:1622	5000		
v	Colour (Hazen Units), Max	IS:3025(Part-4)	300		
vi	Fluoride (as F),mg/l, Max	IS:3025(Part-60)	1.5		
vii	Cadmium (as Cd), mg/l, Max	IS:3025(Part-41)	0.01		
viii	Chloride (as Cl),mg/l, Max	IS:3025(Part-32)	600		
ix	Chromium (as Cr ⁺⁶), mg/l, Max	IS:3025(Part-52)	0.05		
x	Cyanides (as CN), mg/l, Max	IS:3025(Part-27)	0.05		
xi	Total Dissolved Solids (mg/l), Max	IS:3025(Part-16)	1500		
xii	Selenium (as Se), mg/l, Max	IS:3025(Part-56)	0.05		
xiii	Sulphates as SO ₄ (mg/l), Max	IS:3025(Part-24)	400		
xiv	Lead (as Pb) mg/l, Max	IS:3025(Part-47)	0.1		
xv	Copper (as Cu),mg/l, Max	IS:3025(Part-42)	1.5		
xvi	Arsenic as As (mg/l), Max	IS:3025(Part-37)	0.2		
xvii	Iron (as Fe),mg/l, MAX	IS:3025(Part-53)	50		
xviii	Phenolic compounds (as C ₆ H ₅ OH),mg/l, Max	IS:3025(Part-43)	0.005		
xix	Zinc (as Zn),mg/l, Max	IS:3025(Part-49)	15		
xx	Insecticides, mg/l, Max	APHA 21 st	Absent		
xxi	Anionic detergents (as MBAS),mg/l, Max	Annex K of IS 13248	1		
xxii	Oil and grease, mg/l, Max	IS:3025(Part-39)	0.1		
xxiii	Nitrates (as NO ₃),mg/l, Max	IS:3025(Part-34)	50		
xxiv	Alpha Emitters (µcurie/ml), Max	APHA 21 st	10 ⁻⁹		
xxv	Beta Emitters (µcurie/ml), Max	APHA 21 st	10 ⁻⁸		

SAMPLE TYPE :

Note : NA - Not Analysed

SW1 - Nari Halla Up Stream water

SW2 - Nari Halla Down Stream water

Samples Collected & Analysed by Mineral Engineering Services, Ballari

(M.R. DURGA PRASAD)
GOVT. ANALYST

(M.S.RAJU)
HEAD OF LABORATORY

25/XXV, Club Road, Ballari-583 103, Karnataka. Landline No. :08392-267421

E-mail : mes_msraju@yahoo.co.uk / mesbly25@gmail.com

Website : www.envtest.in